

REMARKS

Applicant has carefully considered the March 10, 2008 Office Action, and the amendments above together with the comments that follow are presented in a bona fide effort to address all issues raised in that Action and thereby place this case in condition for allowance. Claims 1-3, 7-8, 12-13 and 14-16 were pending in this application, of which claims 12 and 13 were withdrawn from consideration pursuant to the previous restriction requirement.

In response to the Office Action dated March 10, 2008, claims 1, 3, 8, 14 and 16 have been amended. Adequate descriptive support for the present Amendment should be apparent throughout the originally filed disclosure as, for example, the Summary of the Invention section, depicted embodiments and related discussion thereof in the written description of the specification. Applicant submits that the present Amendment does not generate any new matter issue. Entry of the present Amendment is respectfully solicited. It is believed that this response places this case in condition for allowance. Hence, prompt favorable reconsideration of this case is solicited.

The Examiner indicated that should claim 14 be found allowable, claim 16 would be objected to under 37 CFR 1.75 as being a substantial duplicate of claim 14. Applicants have amended claim 16 to depend from claim 7 and to describe that the drawing tension is 1.47 N to 1.76 N, whereas claim 14, which depends from claim 1, describes that the drawing tension is 1.47 N or more (without an upper limit). Thus, it is believed that the claims are no longer substantial duplicates of one another.

Claims 1-3, 7-8 and 14-16 were rejected under the first paragraph of 35 U.S.C. § 112, as allegedly failing to comply with the written description requirement. Applicants submit that the rejection is moot in view of the foregoing amendments to claims 1, 3 and 8 to remove both the

“determining” and “assuming” steps. Thus, one having ordinary skill in the art would have understood from the originally filed disclosure that Applicants had possession of the now claimed subject matter. Reconsideration and withdrawal of the rejection are solicited.

Claims 1-3, 7-8 and 14-16 were rejected under the second paragraph of 35 U.S.C. § 112. Applicants submit that the rejection is moot in view of the foregoing amendments to claims 1, 3 and 8 to remove both the “determining” and “assuming” steps. Accordingly, one having ordinary skill in the art would not have difficulty understanding the scope of the presently claimed subject matter, particularly when reasonably interpreted in light of the supporting specification. Reconsideration and withdrawal of the rejection are solicited.

In view of the foregoing amendments to claims 1, 3 and 8 to remove both the “determining” and “assuming” steps, it is also believed that the objection to the specification requiring proper antecedent basis for the claimed subject matter is rendered moot. Reconsideration and withdrawal of the objection are therefore solicited.

Claims 1-3, 7-8 and 14-16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hasegawa et al. (U.S. Pat. App. Pub. No. 2001/0038740, hereinafter “Hasegawa”) alone, or in view of Harvey et al. (U.S. Pat. No. 5,284,499, hereinafter “Harvey”). Applicant traverses.

Independent claim 1 has been amended to describe a method of fabricating an optical fiber having a plurality of fiber holes extending along a longitudinal direction of the optical fiber. The method comprises the steps of preparing an optical fiber preform having a plurality of through holes (preform holes), intended to serve as the fiber holes; and drawing the optical fiber preform under a drawing tension of 0.78 N or more while pressurizing the inside of the preform holes at a pressure determined in accordance with a predetermined diameter for each of the fiber holes of the optical fiber to be fabricated.

The claimed subject matter is characterized by the drawing of an optical fiber preform under a drawing tension of 0.78 N or more, while the preform holes thereof are applied with a pressure determined in accordance with a predetermined diameter for each of the fiber holes of the optical fiber to be fabricated. In the case of fabricating an optical fiber with a plurality of fiber holes, by drawing an optical fiber preform thereof with a plurality of preform holes, some of the obtained fiber holes are collapsed or expanded by undesirable drawing conditions (temperature, drawing speed, tension, pressure applied to the inside of the preform holes, etc.). In the fabrication of the optical fiber having a plurality of holes, there exists a case such that the behavior of the holes located in an outer side are different from that of the holes located in an inner side. See Summary at numbered paragraphs [0006] and [0011].

The claimed subject matter addresses and solves such a problem and achieves optical characteristics more close to predetermined design values. Namely, the claimed subject matter, in order to solve the aforementioned problem, draws the optical fiber preform under a drawing tension of 0.78 N, while pressurizing the inside of the preform holes in accordance with a predetermined diameter of each of the fiber holes of the optical fiber to be fabricated.

As described above, the claimed subject matter was a result of the present inventor's discovery that such a behavior regarding hole collapse and hole expansion depends on not only a pressure to be applied to the inside of the fiber holes (hole expansion), but also a surface tension of glass (hole collapse). That is, as now recited in claim 1, it is required to draw the optical fiber preform while pressurizing the inside of the preform holes, at a pressure in accordance with a predetermined diameter for each of the fiber holes of the optical fiber to be fabricated.

Hasegawa alone, or in combination with Harvey fails to disclose a method wherein the pressurizing of the inside of the preform holes is set based on a predetermined diameter for each

fiber hole. Hasegawa, at numbered paragraph [0086], albeit discloses a pressure, however this section relied upon by the Examiner fails to disclose or remotely suggest the setting of a pressure in accordance with a predetermined diameter for each of the fiber holes of the optical fiber to be fabricated, as explicitly required in independent method claim 1.

Moreover, neither Hasegawa alone, or in combination with Harvey, express any recognition of the problem much less offer any viable solution thereof. Under such circumstances, the problem addressed and solved by the claimed subject matter constitutes a potent indicium of nonobviousness which must be given consideration regarding the ultimate legal conclusion of nonobviousness under 35 U.S.C. § 103. The absence in the applied prior art of even a recognition of the problem addressed and solved by the claimed subject matter, let alone the claimed solution, underscores the nonobviousness of the claimed invention as a whole.

It is believed that all pending claims are now in condition for allowance. Applicant therefore respectfully requests an early and favorable reconsideration and allowance of this application. If there are any outstanding issues which might be resolved by an interview or an Examiner's amendment, the Examiner is invited to call Applicant's representative at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

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Respectfully submitted,

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